

Promise of New Mercy Hospital Joplin is Delivered as Hospital Opens in Record Time

[Published March 11, 2015, Saint Louis CNR](#)

Strengthening a devastated community inspires team to design & construct facility in unprecedented 46 months



Demolished in the May 22, 2011, EF-5 tornado – the deadliest tornado in the U.S. since 1947 – the new Mercy Hospital Joplin is set to open its doors to patients on March 22, 2015. The \$465 million (total project cost), 205-private room hospital replaces the former St. John's Mercy Regional Medical Center.

In addition to setting the standard in tornado readiness at the hospital level, the project was completed under budget and in less than half the time it would have taken for a comparable facility.

“From the first few moments after the tornado tore through Joplin, staff from McCarthy and HKS were on the ground to offer immediate assistance,” said McCarthy Building Companies, Inc. President and Chief Operating Officer Scott Wittkop. The team of construction manager McCarthy Building Companies, Inc., architectural firms HKS, Inc. and Archimages, and MEP Engineer Heideman & Associates joined together to assist Mercy in any way necessary.

“It was just the right thing to do,” said Norman Morgan, AIA, HKS principal-in-charge. “This project was meaningful on many levels. It wasn't only about a facility; it was about people – a community suffering from loss and devastation. Our job was to give them hope – give them back their hospital. This rebuilding effort became part of the healing process for the community.”

After the group assessed the damage, Mercy made a promise to the community to rebuild the hospital by early 2015. With this upcoming opening, the team has delivered on this promise, providing a safe, state-of-the-art healthcare facility for Joplin and the surrounding communities it serves.

The new 890,000-square-foot facility includes a nine-story hospital patient tower and five-story clinic tower. It houses units including medical surgical, critical care, women's/children's (labor, delivery, recovery and postpartum rooms), neonatal intensive care, behavioral health and rehab.

Unprecedented Speed

“Speed of delivery was of the utmost importance,” stated Mercy’s John Farnen, executive director of strategic projects. “It took a truly collaborative effort to design and construct this hospital so quickly.”

Ryan Felton, McCarthy project director, explained, “This replacement hospital is opening just 46 months after the tornado hit Joplin, which is approximately half the time you would normally anticipate to plan, design and construct a similarly sized hospital.”

“A standard design schedule is typically eight and a half months,” Morgan said. “To meet the fast-track Mercy Joplin schedule, McCarthy began construction just three months after starting design. We worked as a seamless team with our client located in Joplin and their corporate offices in St. Louis as well as McCarthy and our many consultants. A Revit model allowed us to update changes just in time with the team. And, an astute and nimble client made working through the process efficient as well as rewarding.”

In order to move quickly, Mercy, HKS and McCarthy utilized Building Information Modeling (BIM) to avoid potential issues later in the field. Prefabrication also enabled McCarthy to accelerate the construction. Headwalls and restroom walls for all patient rooms currently built out were constructed in a warehouse and installed later in the construction process.

Safety and Resiliency

As national companies, both HKS and McCarthy had prior experience designing and constructing storm-resistant facilities in coastal regions. The new hospital incorporates many resiliency elements to help withstand another natural disaster and provide a safe environment for patients, staff and visitors.

“The team used lessons learned from the disaster and experience working in coastal regions to design and build a safer, more secure facility,” Morgan said. “For example, we designed protected evacuation routes, incorporated high impact glass and protected critical systems throughout the hospital.”

Critical areas of the hospital, such as the emergency department and intensive care unit, have windows rated to withstand 250 mph winds. High-impact, laminated glass was incorporated throughout the facility along with protected evacuation routes.

Connected to the hospital by a 450-foot underground tunnel is a 30,000-square-foot central utility plant containing all mechanical, electrical and plumbing systems. To protect critical hospital systems, the utility plant was built halfway below ground to limit exposure to the elements. The generator system will enable the hospital to operate for 96 hours if power is lost. To create ease of access to the new hospital, McCarthy also built new entrance ramps, exit ramps and interchanges for the Missouri Department of Transportation, as well as a new road leading up to the facility.

“The new Mercy Hospital Joplin exemplifies teamwork, commitment and innovation,” Felton said. “We are so proud to be able to deliver this world-class facility to the Joplin community. It’s more than just a hospital. This project represents hope, and it has been an honor to be a part of it.”